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AUTHOR Lujan, Jaime
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ABSTRACT

Differential treatment of students by teachers (degree of warmth and friendliness) is helping to account for the failure of low-achieving students. Warm, friendly teacher behavior does not affect student academic achievement directly. Achievement requires effort-engagement on the part of the student as a necessary but not a sufficient condition for successful performance. Teacher warmth influences primarily effort-engagement behaviors which in turn affect achievement. Nineteen teachers were observed in 109 high school class sessions in a suburban school, and 24 racially integrated elementary classes were observed with race as a status characteristic to compare behavior towards low-achieving and high-achieving students. Praise was recorded whenever a teacher made positive encouraging remarks about student effort or academic work either individually, in small groups, or to the entire class. Data reveal that low-achieving and low status students who are unable to do grade level work perceive that the teacher is warm and friendly. Students who are high in academic skill level perceive teachers as less warm. There is some evidence that teacher praise is not seen as a reward for work well done but as part of a diffuse reinforcing of the individual. Further study of teacher warmth is needed. (CJ)

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HOW TEACHER BEHAVIOR RELATES TO STUDENT EFFORT IN CLASSROOMS FOR LOW AND HIGH STATUS STUDENTS

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Jaime Lujan

We cannot understand the behavior of teachers unless we understand the social environment in which teaching occurs. Theories of teaching, however, have seldom taken into account a sophisticated understanding of the effect of social environment in the classroom. The social environment influences the value system and beliefs which teachers bring to the classroom, and as a result, teachers differentiate extensively between the behavior expected of some students and that expected of others. These expectations are usually based on some status characteristic. Schools classify and select students based on these status characteristics. In this way students become the recipients of different kinds of teacher behavior.

It is widely believed by educators and parents alike that warm and friendly teacher behavior unconditionally leads to higher effort by students. Indeed, researchers such as Ryans (1960), in one of the most comprehensive studies of teacher characteristics, reports that good teaching is characterized by teachers who rank high on friendly, understanding classroom behavior.

On the other hand, an extensive series of studies in which Dornbusch (1976) was the principal investigator, discovered that low-achieving students perceived teachers as more warm and friendly than did high-achieving students. In these studies, students who are high in academic skill level perceive teachers as being less warm; yet they continue to exert more effort than their low-achieving peers.

As a result of the Dornbusch study in San Francisco we are concerned with what may be too much warmth for low-achieving students. Teachers may in fact be substituting warmth for other teacher behavior, e.g., high standards for effort and quality of work, with consequent negative results in student effort and achievement. Rather than encouraging students, teacher warmth may simply convey the teacher's low expectations for the low-achieving students' ability to learn.

Students who differ on certain group characteristics such as sex, socioeconomic status or ethnicity, differ in academic performance. The fact that group characteristics predict academic performance does not necessarily mean that particular groups of people have little academic potential. Instead it may mean that the school is failing to help certain groups live up to their academic potential. If this is the case, it is not in keeping with the publicly stated goals of the public schools to provide equal education to all students.

This study investigated the possibility that differential treatment of students by teachers, i.e., teacher warmth and friendliness, is

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helping to account for the failure of low-achieving students. Teachers may feel that it is useless to insist on better work from students for whom they have low expectations.

We are using the concept of status as in Expectation States Theory where status is defined as a social ranking with generalized expectations for competence or incompetence at important intellectual tasks attached to high and low status respectively (Berger, Cohen, and Zelditch, 1972). Two examples of status characteristics where there are generalized expectations for competence are academic status (Hoffman, 1954) and race (Cohen, 1972).

We take the position that warm, friendly teacher behavior does not affect academic achievement directly. Achievement requires effort engagement on the part of the student as a necessary but not a sufficient condition for successful performance. Teacher warmth primarily influences effort-engagement behaviors which in turn affect achievement. However, in addition to teacher warmth, the teacher must demand academic performance and provide the concepts and methods for each student to perform successfully. If a teacher only provides warmth and omits the other behaviors and academic content, then he or she may succeed in keeping the student's attention, but may not succeed in producing academic learning. It was proposed to test the proposition that teacher warmth is directed differentially to low-status students where keeping their attention is seen as problematic.

The general propositions tested are the following:

Low-status students receive more warm teacher behavior which is not related to the academic task at hand than high-status students.

High-status students receive more warm teacher behavior which is related to the academic task at hand than low-status students.

Also explored was the possibility that high-status students have a higher rate of effort engagement behavior than low-achieving students.

To account for the failure of low-status students, teachers may feel it is useless to insist on better work from students for whom they have low expectations for competence. Since teachers are evaluated largely on how well they maintain order in the classroom, teachers may be using warmth toward students while they are engaged in non-academic endeavors in order to control the behavior of students and thus unwittingly contributing to lower effort by low-status students. Because teacher influence is particularly powerful due to their high status, low-status students perceive teacher warmth as a strong indication that they are performing adequately. They are encouraged to persist with low effort by their perception that the amount of effort they are putting forth is adequate.

In the spring of 1976, 109 high school class sessions were observed for social studies, math and English courses in a suburban high school

near San Jose, California. Nineteen teachers were observed teaching two classes each for students who differed in academic achievement. The teachers' behavior towards high-achieving students was compared to their behavior towards low-achieving students.

The second set of observation data used to test the general hypotheses came from racially integrated elementary school classrooms in three schools in the Bay Area. In 1977-78, twenty-four classrooms were observed five to eight times each in the cities of Palo Alto, Berkeley and San Francisco. In this case race was used as the status characteristic. It was argued that, in general, lower expectations for academic competence are held for Black children in a classroom than for white children. To some extent, Black students also represent students with lower achievement scores in these three schools because the white students are much higher in socioeconomic status than the Black students. However, the correlation is by no means perfect. Variants of the same systematic scoring device were used to collect both bodies of data.

In most past research, studies using teacher warmth, praise, and teacher interest in students as the independent variables have found that students who have a low skill level as measured by past achievement are less often the recipients of warm and friendly teacher behavior than those students who are high in skill level. Particular concern has been evinced toward the findings that certain lower status (Black and Chicano) ethnic minority students are the "victims" of teachers who are less warm and friendly toward them than toward their Anglo peers. The situation is compounded by the fact that most teachers are Anglo and most Blacks and Chicanos are low achievers. The prevalent assumption about teacher warmth is that warmth is positively correlated with student productivity. According to Brophy and Good (1974) in reviewing the literature on teacher effectiveness (Rosenshine, 1970; Rosenshine and Furst, 1971), warmth correlated consistently and positively with student achievement. Kleinfeld (1972) designed an experiment to increase the intellectual performance of selected high school students who were doing poorly in school. She reports that teachers, behaving toward students in a warm and friendly manner, especially as communicated by smiling, body distance, and postural stance, significantly increased intellectual performance.

Brookover (1964), however, did find a moderate negative relationship between friendliness and mean gains achieved in history information. He surmised, "Apparently students like friendly teachers better but learn more when taught by teachers who are perceived as less congenial and friendly." More recently, the results of the large scale survey of high school students conducted by S. Dornbusch and his associates also found a relationship opposite to that implied by the earlier literature (Espinosa et al., 1975; Fernandez et al., 1975; Massey et al., 1975; Massey and Dornbusch, 1976). In this study Chicano and Black students perceived teachers as being more warm and friendly than their Anglo and Asian counterparts even though their academic performance was lower.

In view of the pervasive (except for the barely perceptible results reported by Brookover) findings relating warmth and praise to positive

results in student performance, it is surprising to find that urban and suburban high school students perceived teachers as behaving differently toward high- and low-achieving students but with correlations being in the opposite direction (Espinosa et al., 1975; Massey et al., 1975; Dornbusch, 1976). It appears likely that warmth does not relate to achievement under all conditions.

Teacher-student interaction was coded according to whether the teacher behavior was directed towards the students in the context of the student being engaged in subject matter related to the normal school tasks (academic) or whether the teacher behavior was related to subjects which were not related to school work (non-academic).

The behavior counted as teacher warmth was those specific unobtrusive measures taken by teachers in the classroom which reduce interpersonal anxieties of students. Behaviors counted were those incidents, both verbal and nonverbal, exhibiting friendliness, sympathy, understanding, empathy, and personal interest in the students. The most obvious of these behaviors were smiling, laughing, touching a student (a friendly pat on the shoulder) and those times when a teacher got very close to a student while behaving in a friendly manner.

Praise was recorded whenever a teacher made positive encouraging remarks about the students' effort or academic work either individually, in small groups, or to the whole class. Praise was recorded in three categories: praise for achievement, praise for effort and extraordinary praise for achievement.

The process of classroom interaction between teacher and student was recorded by the observer sitting quietly in as inconspicuous a place as possible, usually in the back of the classroom. The researchers resorted to the use of a shortwave electronic device which made it possible to capture the interaction even when the teacher was talking in a low voice. The data were collected using pencil and paper. The observer recorded the interaction on a schedule. The schedule was designed so that only a small mark was required for the information to be recorded in specific categories while at the same time the observer could observe interactions.

For the effort engagement, the observers recorded the number of students who were engaged in the task which had been assigned by the teacher. Two things were looked for: whether the student was working on the appropriate activity as assigned by the teacher, or whether the students were paying attention to the teacher.

The observation schedule emphasizes low inference measures of both dependent and independent variables.

Training for the two observers required them to reach an inter-rater reliability of .80 for the independent variable and a 90 percent criterion for the dependent variable. For the data collection in the actual study, independent observations were done for each class by one observer. Every fifth class was observed independently but simultaneously by both observers. Thus, every ninth observation was done by both observers for

a total of eight classrooms. This category system and the training method used were highly conducive to minimizing coding bias.

The questionnaire used was developed to collect comparable data from the perspective of the students. The information included:

1. Student perceptions of teacher warmth, friendliness, interest in the students, and praise for good academic performance.
2. Student perceptions of their effort engagement including paying attention, daydreaming, cutting and homework.
3. Self-assessment of effort by students.
4. Importance of academic success by students.

Background variables included on the student questionnaire were age, grade in school, sex, and subject.

The questionnaire developed to measure teacher expectations for the academic performance of high and low status students included the following specific measures:

1. Teacher perceptions of how warm and friendly they are toward the students.
2. Teacher perceptions on how hard the students as a class try to get good grades.
3. Teacher perceptions of the mean ranking of each class on standardized achievement tests.

The academic ability of the classes in question was determined first by asking teachers through the questionnaire for their perception of the mean academic ability of the students in each of their classes using the scale below. The question asked was, "To the best of your knowledge, on national norms, what is the average achievement level of each of your classes?"

1	below average	1-25 percentile
2	slightly below average	26-40 percentile
3	average	41-60 percentile
4	slightly above average	61-74 percentile
5	above average	75-99 percentile

Secondly, scores from the students' cumulative files were used to determine the class mean on standardized test scores.

On the basis of this information, the teachers were divided into two groups. Group one was expected to more strongly support the hypothesis. The group consisted of teachers who perceived their high and low classes as discrepant by at least two degrees on achievement level. These cases most closely approximate the conditions necessary to test the hypotheses.

The second group was expected to support the hypotheses less strongly, because they did not perceive their classes to be discrepant on achievement level by more than one degree. They therefore do not sufficiently meet the conditions necessary to test the hypotheses.

For theoretical purposes the teacher perceptions of the mean academic ability of their classes were emphasized in this analysis. Teacher perception is more important as a determinant of teacher expectation for competence because it is this perception of student

ability which directly causes the teacher to believe in the capabilities of the students. It was hypothesized that teachers act on this belief through differential behavior towards students they perceive as varying in academic abilities. An example of this is the high school math teacher who said confidentially to one of the observers, "Lower ability kids don't care if they fail, they're just here because they have to be." Later in the conversation, the same teacher reflecting on his contribution as a teacher, said, "This group (referring to his low ability class) is very congenial now, they used to be very rowdy." This teacher's behavior, based on his perceptions of the students' academic ability, would be expected to support the hypotheses. On the one hand, his low expectations for success would indicate that he would not be consistently supportive through warm behavior for academic effort; on the other hand, we would expect him to try to make friends with the students through warm, friendly behavior in non-academic situations in order to control their "rowdiness."

The results of Group I and Group II teachers are different, suggesting that we should pay more attention to the results for Group I where the perceptions of achievement were more distinctive. The hypothesis on Non-Academic Warmth was not supported by the data. The hypothesis on Academic Warmth showed a pattern of more academic warmth for high-achieving classes for Group I teachers. However, with the small N it did not reach statistical significance. The hypothesis on more teacher praise for the low-achieving classes was clearly supported by the data. There was no finding that the high-achieving classes were significantly more effort-engaged in their classroom tasks than the low-achieving classes.

In contrast to this lukewarm support for the hypotheses, the student perception data showed the same pattern as in the Dornbusch data. Low-achieving classes reported putting out less effort than high-achieving classes. This is especially the case for the item on hours per week spent on homework. Students in low-achieving classes were much more likely to report that the teachers were friendly, interested in "you as a person," praised and helped with personal problems. Furthermore, the difference in results between observed effort and reported effort is not due to the meaninglessness of student report. Some strong correlations were found between the aggregate level of observed effort in a class, particularly the variable of "paying attention," and student aggregate report of paying attention, mind wandering and class cutting. Lastly, observed academic warmth in the teacher was correlated with class reports of teacher's helping with personal problems, teacher praise, teacher being friendly, and teacher being interested.

A second test of the general hypotheses was made on a separate body of observation data carried out in three racially integrated elementary schools. The observation instrument was comparable to the one used for the high school study on the variables of teacher warmth for academic and non-academic tasks. In this case Black and white students were compared in a given class as recipients of teacher warmth. Comparable data on observed effort engagement were not obtained.

In addition to teacher observation data this study provides data on the teachers' methods of instruction. Teachers were studied on several dimensions, such as methods of evaluation, use of ability groups and use of individualization. Theoretically, traditional instructional techniques which exaggerate competitive differences in academic achievement should aggravate the status problems in these classrooms, which were all very heterogeneous academically. Therefore, it was expected to find the hypotheses holding more strongly in such classrooms than in more individualized classrooms which provide more of a chance for success for low-status students.

This project also collected student questionnaire data using Deslonde's Multicultural Social Climate Scale. Although there are no items exactly equivalent to the Dornbusch survey, there are items on the student's perception of the feedback he receives on academic problems. There are also items measuring academic self-concept in the various subject matters. There was a set of items making up a general index on how much attention the teacher was perceived to give to each student.

There were certain advantages and disadvantages of each of these two sets of observation data. Certainly, there was much to be gained from two independent tests of the central hypotheses.

The major advantage of the high school observation study was the control of having the same teacher teaching two different ability levels. Also, we had direct measures of academic engagement taken on the high school study.

A disadvantage of the high school observation study was the problem experienced in finding the high and low ability classes consistently distinctive in teacher perception and standardized achievement score data. Some of these classrooms turned out to be not at all well differentiated.

The elementary school data provided a clear distinction on the status of the target of the teacher, i.e., children of different races. To some extent these represented children of different achievement status, but there were high-achieving minority students in these classrooms. Thus the test of the hypothesis focuses on the racial status of the child rather than the achievement status. In these data the advantage of teachers of different races can be examined whether or not the hypothesis holds equally well for white and Black teachers.

In the elementary schools teacher behavior was found to be significantly ($p < .05$) different in the predicted direction on Non-Academic Warmth for "teachers who individualize" and was not significantly different ($p < .10$) for teachers in the "traditional" category. This does not support the prediction that the hypothesis would be more strongly supported by the traditional teachers. Using a t test, the data show that for all twenty-three teachers the amount of Non-Academic Warmth was greater for low status students, significant at $p < .01$. This was in the predicted direction. For the eighteen white teachers, a t test also shows a significant difference at $p < .01$ level of significance.

The data were also examined to compare paired groups of teachers to test for differences between groups on Academic and Non-Academic Warmth towards Black and white students. Teachers who individualize show a higher mean Academic Warmth toward Black and white students than do traditional teachers. White teachers as a group show more Academic Warmth than Black and Asian teachers. Teachers who individualize show higher Non-Academic Warmth than traditional teachers. White teachers also show more Non-Academic Warmth than Black and Asian teachers.

The hypothesis that low status students receive more Non-Academic Warmth was supported. The hypothesis that high status students receive more Academic Warmth was not directly supported. Using the classroom observation data, it was found that low status students received more Academic and Non-Academic Warmth although the differences were greater for the Non-Academic Warmth.

Generally the hypotheses were not as strongly supported as was predicted, nor were the results as consistent as had been predicted. There are, however, a number of findings which help us to understand better the phenomenon of teacher warmth and its relationship to the amount of effort put forth by students.

As was anticipated, the results in the high school data were consistently weaker for the Group II teachers where perceptions of the two classes were not sufficiently differentiated. For the Group I teachers, the variable of Non-Academic Warmth is higher for the low ability classes (for six out of ten teachers) but the differences are not significant. Academic Warmth is in the predicted direction in seven out of ten cases. There was no difference in Observed Effort.

The survey results did replicate the Dornbusch results. The student reports on the differences in friendliness and effort of teachers for high and low status students were replicated. The replication was particularly strong for the reported homework variable. As in the Dornbusch study, students from low-achieving classes were more likely to report teacher warmth. They also reported putting out less objective effort in terms of homework, attendance and paying attention.

As for the methodological issue of the relationship of student report to observed behavior, there are significant correlations between observed and reported effort, especially the relationship between observed student attention and student report of paying attention and of class cutting. Observed Non-Academic Warmth relates to students' report of teacher help with personal problems, teacher being friendly, teacher praising and teacher interest. It was seen that teachers criticize low status students more, but praise them about the same.

The question remains: "Why do high school students who are low ability perceive more friendliness although it was not systematically observed?" The observed Non-Academic Warmth of secondary teachers for high and low ability students was not significantly different for either group of teachers. The student perceptions of teacher warmth, on the other hand, somewhat supported the hypotheses for Group I teachers. This can probably be explained by the fact that the observations were made

just before the school year ended. Because of this, relationships between students and teachers and the resulting patterns of interaction had already been established and the teacher already had a reputation among the low achieving students as being warm and friendly, even though it was not readily apparent to the observers. In other words, the students were already nicely coopted, and it was not necessary for the teacher to keep on lavishing warmth. Overall, the high school students in the low ability classes were indeed quiet and well-behaved. However, the correlation between Non-Academic Warmth (observed) and student report, suggests that this result is not an artifact of the unreliability of student report. Overall, fairly high levels of apparent task engagement were found despite uninteresting teacher presentations.

The fact that no differences were found in observed praise, but a difference in observed criticism is very likely due to one or both of the following: it may be that teachers are using unconditional praise on low ability students, so that they do not get really consistent reinforcement for good academic effort. Or, it may be that their assigned tasks are too easy, so they do well even through they are functioning at a low level. The lack of homework done by low ability students suggests this interpretation. The reinforcement issue deserves further study.

The significant correlations found between student report and observed behavior and between Dornbusch's perception findings and the perception findings of this study are important. First, it suggests that less costly questionnaire methods can be used to go on studying this hypothesis. Second, it suggests that the original interpretation cannot be dismissed as a one-time finding or an artifact of perception--i.e., their perception findings replicated and we found students to be accurate reporters at the aggregate level. Our failure to find observed differences may have been due to many fewer teachers than in the Dornbusch study and to our not having as dramatic differences in academic skills as between his high and low achievers. As discussed above, it may be necessary to observe the classes at the beginning of the year in order to test the hypotheses. During the time the teacher is establishing the social climate in the classroom we would expect to encounter more vividly the teacher behavior suggested by the hypotheses.

In the elementary study, the most significant finding ($p < .01$) was that white elementary teachers show more Non-Academic Warmth towards Black students than towards white students. This is consistent with the interpretation of the Dornbusch findings. Students who do less well in school, not only perceive their teachers as more warm and friendly but those teachers were observed as being friendlier in non-academic situations.

The behavior of Black elementary teachers with respect to Non-Academic Warmth towards Black and white students was similar to the behavior of white teachers, in terms of the direction of the difference on observed non-academic warmth. Since there were only four Black teachers in the study these results were not statistically significant.

In the elementary study, it is surprising that the pattern of non-academic warmth toward low status students is more characteristic of

"Teachers Who Individualize" than of "Traditional" Teachers. A possible explanation for this might be that the individualization of instruction gives much more opportunity for individualized teacher-student interaction of a particularistic character; thus the study was able to see differences in behavior toward Black and white students more dramatically. More experience with individualized instruction and a deeper understanding of how it is supposed to work would probably help these teachers to equalize their non-academic warmth towards Black and white students. Another possible explanation is that it must be taken into account that discipline was always more problematic in these lively classrooms than in the sedate setting in which the high school study was done. Not only were some Blacks reported by both observers and teachers to be hyperactive, but Blacks were seen as more socially influential than the whites in this school. Thus, the teachers probably saw some Blacks as a threat to social order based on academic status and lavished all kinds of warmth on them in order to keep them "in line." Besides, they probably initiated the action vis-a-vis the teacher as much as it went the other way.

Here the results come out more strongly because there really is an issue of cooptation; this is likely to be the answer to why our results came out as predicted only for our elementary school data.

Although it was not one of the hypotheses of the study, one important issue is the general question: Does more warmth lead to more effort as is generally assumed? Using observation measures an attempt was made to determine whether this was true for low ability classes and high ability classes in the high school data. Teachers were ranked on both kinds of warmth and on observed effort. Rank order correlations were done using the Spearman correlation coefficient.

Group I and Group II teachers were compared for both kinds of warmth towards low and high classes. Table 16 shows the results. None of the findings were statistically significant; however, there is a positive correlation of .36 between academic warmth and observed effort for high-achieving classes of Group I teachers and a correlation of .54 ($p = .066$) between Non-academic Warmth and Observed Effort for these same classes. All other classes show negative or zero-order relationships. If there is a positive relationship between student effort and teacher warmth it is occurring for the high-achieving classes. There is no evidence in these data to support the idea that teacher warmth will produce effort in low-achieving classes.

Table 1

Rank Order Correlation of Observed Effort with Both Kinds of Warmth for High and Low Ability Classes for Group I and Group II Teachers: Spearman Correlation Coefficient

Warmth	Group I teachers	Group II teachers
Academic warmth, High	.3613 n=9 sig .170	-.5714 n=8 sig .069
Academic warmth, Low	.0252 n=9 sig .474	-.1429 n=8 sig .368
Non-academic warmth, High	.5420 n=9 sig .066	.0000 n=8 sig .500
Non-academic warmth, Low	-.4454 n=9 sig .115	.1190 n=8 sig .389

In conclusion, it appears that further study of teacher warmth is needed. Teacher warmth probably does not lead unconditionally to more student effort and learning.

These data reveal low achieving/low status students who are unable to do on-grade level work perceiving that the teacher is warm and friendly. They are not putting out or are not asked to put out a good deal of academic effort to make up for their deficiencies. There is some evidence that teacher praise is not seen as a reward for work well done but as part of a diffuse, reinforcing of the individual. This whole picture is not a constructive one, if the goal is to do something about the marked academic needs of many low status students. They need to put out a great deal of effort; they need feedback which is clearly tied to their performance. The entire sequence of the suitability of their assignments, the amount of follow-through and feedback on their academic work, and their effort to "catch up" needs to be closely examined. It is not enough for the teacher to gain their cooperation and conformity through interpersonal warmth.

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